Soviet Physics Journal 1989 vol.32 N5, pages 408-412

Kinetics of classical charged particles in a space with torsion

Galiakhmetov A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The kinetics of classical charged particles is examined in this paper within the framework of Einstein-Cartan theory. It is shown that the Vlasov equation in Riemann Cartan space has the same form for spinless charged particles as in Riemann space. As an example, the solution is examined of the system of Einstein-Cartan-Vlasov equations in Minkowski space. Spatially periodic solutions for the vector field potential are obtained for a relativistic statistical system of particles with brief vector interaction. The period of the structure occurring is compared with the analog in general relativity theory (GRT). © 1989 Plenum Publishing Corporation.

http://dx.doi.org/10.1007/BF00895328